

Investigation of Healthcare-Associated Hepatitis B or C Infection

The following are procedures that should be followed in investigation of possible healthcare-associated hepatitis B or C.

Incubation periods

- Hepatitis B: 45 – 180 days
- Hepatitis C: 14 – 180 days

Single suspect or confirmed case of hepatitis B or C in association with a procedure at a single doctor's office or health care facility

Criteria for investigation

1. No other hepatitis risk factors;
2. No other invasive procedures occurred during the incubation period;
3. Patient meets the case definition for acute hepatitis B or C within the normal incubation period after the procedure or there is evidence of seroconversion within the incubation period after the procedure.

Scope of the investigation:

1. Establish that the patient:
 - a. Meets the CDC case definition for acute hepatitis B or hepatitis C with onset of symptoms within the expected incubation period; or
 - b. Seroconverted during the appropriate incubation period following the procedure.
2. Interview the patient to identify other risk factors for hepatitis, including injections and other invasive healthcare procedures.
3. Interview the patient's primary care physician to identify hepatitis risk factors or exposures.
4. If procedure logs are available for the day of the procedure (and surrounding 1-2 days, if warranted), ask for copies of the procedure log and cross match to the B and C registries.
5. View relevant licensing board listings to determine if there have been related disciplinary actions against the provider(s).
6. If any of these raise a concern, continue the investigation as in multiple cases associated with one clinic or office.

Multiple cases associated with one office or clinician

In addition to all considerations (above), a full investigation will generally include the following:

1. Conduct a site visit, to include:
 - a. Review of infection control procedures, including sterilization of reusable equipment.

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- b. Observe at least one procedure or mock procedure, including anesthesia administration.
 - c. Review and abstract medical records for index cases(s) and patients seen during the same day and surrounding 1-2 procedure days.
 - d. Interview all staff.
 - e. Obtain procedure log and/or appointment book for the day in question (and possibly for the adjacent days if indicated).
2. Contact patients seen on the same day and surrounding 1-2 days and recommend testing for hepatitis B and C.
3. Obtain information on available clinic databases for matching to the hepatitis B and C registries. These clinical databases will be needed if broader patient notification is indicated. Information should also be obtained on any databases which may hold information about which equipment was used for each patient (e.g., which endoscope, etc.).
4. Match patients seen during the same day and surrounding 1-2 procedure days against the hepatitis B and C registries.
5. Draw blood on patients known to be positive for chronic hepatitis C and hepatitis B and store for genotyping or molecular sequencing if necessary. Obtain patients' consents, disclosing how the specimens will be used. Patients may be classified with chronic hepatitis B or C after review of their medical records; after matching with the surveillance database; or after evaluation.
6. Have clinicians who performed the procedure and gave anesthesia as well as other staff present who may have had access to anesthetics tested for hepatitis B and/or C.

Broader patient notification

1. Broader notification to advise patients of possible exposure and recommend testing will be necessary in some circumstances, such as:
 - a) There is convincing evidence that hepatitis B or C transmission occurred on more than one occasion.
 - b) There is compelling reason to be concerned about infection control practices in the office such as gross infection control breaches or unsanitary conditions in the office. The following breaches have been associated with hepatitis B or C transmission in healthcare settings in the past:
 - a. Using the same syringe to administer medication to more than one patient, even if the needle was changed
 - b. Using the same medication vial for more than one patient, and accessing the vial with a syringe that has already been used to administer medication to a patient
 - c. Using a common bag of saline or other IV fluid for more than one patient, and accessing the bag with a syringe that has already been used to flush a patient's catheter

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- d. Reuse of contaminated equipment or supplies on multiple patients (includes glucose monitors).
2. Notification will NOT be performed for infection control breaches in the absence of known cases of hepatitis.

Transmission to only one patient

If transmission occurred on only one occasion, the decision to notify should be made on a case by case basis, based on the circumstances of the case and the medical practice involved.

EXAMPLE: a single incident hepatitis B case occurs in a practice and no additional suspect or confirmed cases are identified after a) matching the practice databases against the hepatitis B and C registries and b) testing all patients who may have been exposed to the medication vial used on the day in question or on subsequent days if the vials are used from day to day. These circumstances would suggest that the hepatitis B infection may be related to an isolated infection control breach.

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